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- (71) Applicant (for all designated States except US): **CYTOKINETICS, INC.** [US/US]; 280 East Grand Avenue, South San Francisco, CA 94080 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **COLEMAN, Daniel** [US/US]; 328 West 36th Avenue, San Mateo, CA 94403 (US). **CONG, Ge** [CN/US]; 10944 San Pablo Avenue, El Cerrito, CA 94530 (US). **RAO, Albing** [CN/US]; 1944 Garden Drive, Burlingame, CA 94010 (US). **VAISBERG, Eugeni** [US/US]; 647 Regasus Lane, Foster City, CA 94404 (US).
- (74) Agent: **GARRETT, Arthur, S.**; Finnegan, Henderson, Farabow, Garrett & Dunner, LLP, 1300 I Street, N.W., Washington, DC 20005-3315 (US).

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(54) Title: METHODS AND APPARATUS FOR CHARACTERISING CELLS AND TREATMENTS

(57) Abstract: Methods, data processing apparatus and computer program products for characterising cells and the affect of treatments administered to cells are disclosed. In particular methods of identifying bi-nuclear cells are described which include capturing an image of a plurality of marked cells and processing the image to obtain features of the plurality of cells. The features are analyzed to determine whether the features is indicative of bi-nuclear cells. Those cells for which the first feature is indicative of bi-nuclear cells are identified as being bi-nuclear. Three algorithms in particular are described. A first algorithm can be used to determine the number of nuclei in an image of a nuclear component by determining the number of concave regions within the outline of the image. A second algorithm uses a measure of the amount of cytoplasmic material between a pair of nuclei to identify by-nuclear cells. A third algorithm uses the statistics of the spatial distribution of objects to identify isolated pairs of nuclei which can be considered to be from the same cell.